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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,373	09/18/2003	John C.W. Ngan	2482	8499

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EXAMINER
MANOHARAN, MUTHUSWAMY GANAPATHY

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/666,373

Applicant(s)

NGAN, JOHN C.W.

Examiner

Muthuswamy G. Manoharan

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/16/2003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, 4, 5, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Akhteruzzaman et al. (hereinafter Akhteruzzaman ).

Regarding claim 1, Akhteruzzaman discloses a method of activating call forwarding for a mobile station (Abstract, lines 20-23), comprising the steps of: monitoring a measure of received signal strength at said mobile station; automatically transmitting a first feature code from said mobile station to a wireless network when said monitored measure of received signal falls below a threshold level (item 120 in Figure 4), said first feature code activating call forwarding for said mobile station such that incoming calls are directed to a previously programmed directory number (col. 6, lines 41-46; item 126 in Figure 4); continuing to monitor signal strength at said mobile station during a period when call forwarding is activated; automatically transmitting a second feature code from said mobile station to a wireless network when said signal strength rises above said threshold level, said second feature code deactivating said call forwarding (col. 1, lines 65-67, col. 2, lines 1-2).

Regarding claim 4, Akhteruzzaman discloses the method of claim 1, wherein said mobile station comprises a cellular telephone (item 70 in Figure 1).

Regarding claim 5, Akhteruzzaman discloses the method of claim 1, wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number (Col. 6, lines 28-31; Col. 7, lines 10-17; item 114 in Figure 2)).

Regarding claim 11, Akhteruzzaman discloses a wireless telephone comprising: circuitry monitoring a measure of received signal strength from a wireless base transceiver station; programmable logic providing instructions for automatically transmitting a first code from said wireless telephone to a wireless network activating call forwarding when said circuitry determines that the received signal strength falls below a threshold level; and programmable logic providing instructions for automatically transmitting a second feature code from said wireless telephone to a wireless network deactivating call forwarding when said circuitry determines that the received signal strength, having previously fallen below threshold level, rises above said threshold level (Col. 6, lines 46-50).

Regarding claim 13, Akhteruzzaman discloses telephony network comprising a plurality of base transceiver stations and roaming mobile stations subscribing to said network (Figure 1), the improvement comprising; providing a service control node (item 56 in Figure 1) in said cellular telephony network that activates and deactivates a call forwarding service for said roaming mobile stations, wherein said call forward service is activated and deactivated by transmission of first and second feature codes form said

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roaming mobile stations, respectively, and further wherein said first and second feature codes are transmitted when a monitored measure of received signal strength at said mobile stations falls below, and rises above threshold level, respectively (col. 1, lines 65-67, col. 2, lines 1-2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2,3,7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Lundborg (U.S. 6,782,262).

Regarding claim 2, Akhteruzzaman discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring the ratio  $E_c / I_o$ , wherein  $E_c$  is a measure of carrier strength and  $I_o$  is a measure of interference. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring the ratio  $E_c / I_o$ , wherein  $E_c$  is a measure of carrier strength and  $I_o$  is a measure of interference (Col. 9, lines 8-10). Quality of a digital channel is measured by bit error rate (BER) on the up or down link and is related to the ratio  $E_c / I_o$ . Therefore, it would have

been obvious to one of ordinary skill in the art at the time of the invention to use ratio  $E_c / I_o$  for setting the signal strength threshold.

Regarding claim 3, Akhteruzzaman discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network (Col. 9, lines 20-22). Speech quality for an analog channel is measured by the signal to noise ratio on the up or down link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network as a measure of received signal strength.

Regarding claim 7, Akhteruzzaman discloses all the particulars of the claim, except wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. However, Lundborg teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station (Col. 9, lines 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level is determined by an element in said wireless network and transmitted to

said mobile station. The variation of the threshold based on the mobile station has to be taken into account in order to improve the efficiency of communication.

Regarding claim 10, Akhteruzzaman discloses all the particulars of the claim, except wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. However, Lundborg teaches in an analogous art, discloses the method, wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time (items 64 and 66 in Figure 6; 51-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method; wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. This waiting period is required in order to avoid performing call forward too often.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Lo (U.S. RE37, 301E).

Regarding claim 6, Akhteruzzaman discloses all the particulars of the claim, except wherein said feature code is sent to said wireless network over an access channel. However, Lo teaches in an analogous art, wherein said feature code is sent to said wireless network over an access channel (Col. 2, lines (66-67)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of activating call forwarding for a mobile station wherein said feature code is sent to said wireless network over an access channel. This method of sending the

feature code through access channel would improve the transmission efficiency and reduce the access delay.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Jensen (U.S. 2002/0022480).

Regarding claim 8, Akhteruzzaman discloses all the particulars of the claim, except wherein the threshold level varies depending upon the type of mobile station. However, Jensen teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level varies depending upon the type of mobile station (Paragraph [0015], lines (6-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level varies depending upon the type of mobile station. By including all the factors that are affecting the threshold one can improve the efficiency and performance of cellular system.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Chawla et al. (hereinafter Chawla) (U.S. 6,496,700).

Regarding claim 9, Akhteruzzaman discloses all the particulars of the claim except wherein the threshold level lies in the range of -85dB to -90 dB. However, Chawla teaches in an analogous art, wherein the threshold level lies in the range of -85dB to -90 dB (col. 19, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the threshold level lies in the range of -85dB to -90 dB.



Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhteruzzaman in view of Haub (US 2004/0152429).

Regarding claim 12, Akhteruzzaman discloses all the particulars of the claim except wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio  $E_c / I_o$ , wherein  $E_c$  is a measure of carrier strength and  $I_o$  is a measure of interference. However, Haub teaches in an analogous art, discloses the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio  $E_c / I_o$ , wherein  $E_c$  is a measure of carrier strength and  $I_o$  is a measure of interference (Paragraph [0022], lines (11-15)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio  $E_c / I_o$ , wherein  $E_c$  is a measure of carrier strength and  $I_o$  is a measure of interference.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smith et al. (U.S. 6073029) teaches telephony network comprising plurality of base transceiver stations and roaming mobile stations subscribing to said network and also a service control node in said telephony network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muthuswamy G. Manoharan whose telephone number is 571-272-5515. The examiner can normally be reached on 7:30AM-4: 30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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